

9800341

# HHE UNKLED STAYLES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

MICCOS, THERE HAS BEEN PRESENTED TO THE

#### Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDIGATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE GHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR RITING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE; OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

#### ALFALFA

'53V08'

In Testimony Mexicol I have hereunto set my hand and caused the seal of the Plant Pariety Arotection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of April, in the year of our Lord two thousand one.

alank fort

Acting Commissioner Plant Variety Protection Office Agricultural Marketing Service ) of Agriculture

REPRODUSE LOCALLY. Include form number and date on all	reproductions.	· .	FORM APPROVED - OMB NO. 0581-0055			
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE		The following statements are made in accordance with the Privacy Act of				
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PRO		1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.				
APPLICATION FOR PLANT VARIETY PROTECTIO  (Instructions and Information collection burden statem		determine if a plant variety protection 2421). Information is held confidential 2426).				
1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME				
Pioneer Hi-Bred International, Inc.	X53V08	53V08				
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and	Country)	5. TELEPHONE (include area code)	FOR OFFICIAL USE ONLY			
		,	PVPO NUMBER D 3 4 1			
7305 N.W. 62nd Ave.		(515) 270-3347	30003 <b>41</b>			
P.O. Box 287	P.O. Box 287 Johnston, IA 50131		F DATE			
Johnston, IA 50131			n 1-13-9√			
7. GENUS AND SPECIES NAME	8. FAMILY NAME	(Botanical)	FILING AND EXAMINATION FEE:			
Medicago sativa	Legui	minosae	·, a450 <sup>99</sup>			
9. CROP KIND NAME (Common name)	1		-   5   DATE			
Alfalfa			CERTIFICATION FEE			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGAN Corporation	n, partnership, association, etc.) (Common name)	1.320%				
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	D DATE // /			
lowa	lowa May 6, 1926					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO	SERVE IN THIS APPLIC	ATION AND RECEIVE ALL PAPERS	14. TELEPHONE (in flude area code)			
Mark Smith	/i. Bromert	(515) 270-3347				
7305 N.W. 62nd Ave.	W 62nd Avenue	15. FAX (include area code)				
P.O. Box 287		ox 1000				
Johnston, IA 50131-0287	Johnst	ton, IA 50131-1000	(515) 270-3750			
<ul> <li>16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (For a.   ✓ Exhibit A. Origin and Breeding History of the Variety</li> <li>b. ✓ Exhibit B. Statement of Distinctness</li> <li>c. ✓ Exhibit C. Objective Description of the Variety</li> <li>d. ✓ Exhibit D. Additional Description of the Variety (Optional)</li> <li>e. ✓ Exhibit E. Statement of the Basis of the Applicant's Ownership</li> <li>f. ✓ Voucher Sample (2,500 viable untreated seeds or, for tuber p.</li> <li>g. ✓ Filling and Examination Fee (\$2450), made payable to "Treasure</li> </ul>	o ropagated varieties veri er of the United States"	ification that tissue culture will be deposited and n (Mail to PVPO)				
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SULD			n 83(a) of the Plant Variety Protection Act)			
YES (If "yes," answer Items 18 and 19 below)  18, DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMIT		(If "no," go to item 20)  19. IF "YES" TO ITEM 18, WHICH CLASSES C	F PRODUCTION BEYOND BREEDER SEED?			
GENERATIONS?		FOUNDATION REGISTE				
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN  YES (If "yes," give names of countries and dates)	RELEASED, USED, OF					
21. The applicant(s) declare that a viable sample of basic seed of the variety applicable, or for a tuber propagated variety a tissue culture will be dep. The undersigned applicant(s) is {are} the owner(s) of this sexually reproin Section 42, and is entitled to protection under the provisions of Section Applicant(s) is (are) informed that false representation herein can jeopa	osited in a public repos duced or tuber propag on 42 of the Plant Varie	itory and maintained for the duration of the certific ated plant variety, and believe(s) that the variety is ty Protection Act.	cate.			
SIGNATURE OF APPLICANT (Owner(s))		SIGNATURE OF APPLICANT (Owner(s))	4.2			
NAME (Please print or type)	N	IAME (Please print or type)				
Mark Smith						
CAPACITY OR TITLE DATE		APACITY OR TITLE	DATE			
Research Manager 7	-7-98					
STD-470 (Previous editions are to be destroyed)		(See reverse for instructions and	information collection burden statemen			

### **EXHIBIT A**

## ORIGIN AND BREEDING HISTORY OF THE VARIETY

### '53V08'

53V08 is a synthetic variety comprised of 224 random parent plants crossed in "cage isolation" in 1993. Parent plants trace to populations selected for winterhardiness and forage yield based on field and greenhouse tests. Parent plants were selected using space plant nurseries screened for one or more of the following pests: bacterial wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root knot nematode, and spotted aphid. Phenotypic recurrent selection was used. Parent plants trace to several intermediate lines to 5444 (21.4%), 532 (10.0%), WL316 (9.5%), Apollo (8.2%), Armor (7.1%), DK120 (6.4%), 545 (5.9%), Venal (4.0%), NCMP10 (3.3%), and 24.2% to others with minor contributions.

This variety was observed over three generations and found to be uniform and stable.

No variants were observed during seed (breeder, foundation and commercial) multiplication procedures.

It is confirmed that 53V08 meets presently acceptable levels for uniformity for alfalfa varieties.

## **EXHIBIT B**

### **NOVELTY STATEMENT**

### '53V08'

53V08 most closely resembles the variety 5364. 53V08 differs from 5364 primarily in its resistance to nematodes as well as having more winterhardiness. 53V08 is highly resistant to both stem nematode (59.4%) and northern root knot nematode (70.3%) where 5364 is only resistant (32.6) and moderately resistant (24.3%), respectively. In addition, 53V08 is very winterhardy compared to 5364 being moderately winterhardy.

Other traits of difference include resistance to: Verticillium wilt (5364 = 22.1%, 53V08 = 61.3%), Anthracnose race 1(5364 = 17.2%, 53V08 = 70.6%), Phytophthora root rot (5364 = 17.2%, 53V08 = 60.3%), and blue aphid 1 (5364 = 0.0%, 53V08 = 27.1%).

These two varieties are also different in flower color as 5364 has 98% purple and 2% variegated, and 53V08 has 68% purple and 31% variegated.

EXHIBIT C (ALFALFA)

#### U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE LIVESTOCK AND SEED DIVISION PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MARYLAND 20705

# OBJECTIVE DESCRIPTION OF VARIETY ALFALFA (Medicago sativa sensu Gunn et al.)

			TEMPORARY DES							
NAME OF APPLICANT(S)	• •				VARIETY NAME					
Pioneer Hi-	Bred International, I	nc.	X53V08		53V08					
ADDRESS (Street and No., or R.F.	D. No., City, State, and Zi	p Code)			FOR OFFICIAL USE ONLY					
7305 N.W.		PVPO NUMBER 0 0 3 4 1								
Johnston, I	A 50131				300	V341				
PLEASE READ ALL INSTRUCT application variety. Data for quinecessary (e.g. 0 8 9 for quicolor may be precisely designated	iantitative plant charad antitative data. Compa	cters should be base arative data should l	ed on a minimum of 10 be determined from va	00 plants. Include lear rieties entered in the	nding zeros when same trial Plant	f the commerical ge	nerations of the			
1. WINTERHARDINESS:										
8 CLASS:	8 CLASS: 1 = Very Non-Winterhardy (CUF 101) 3 = Intermediately Non-Winterhardy (Mesilla) 5 = (Du Puits) 7 = (Ranger) 9 = Extremely Winterhardy (Norseman)			2 = Non-Winterhardy (Moapa 69) 4 = Semi-Winterhardy (Lahontan) 6 = Moderately Winterhardy (Saranac) 8 = Winterhardy (Vernal)						
	TEST LOCATION:	Owatonna, MN:	Arlington. WI		· · · · · · · · · · · · · · · · · · ·					
2. FALL DORMANCY:	<del>, </del>	FALL DORMANCY (	DETERMINED FROM S	SPACED PLANTINGS	5)					
· · · · · · · · · · · · · · · · · · ·				REGROWTH SCORE OR AVERAGE HEIGHT						
TESTING INSTITUTION AND LOCATION	DATE OF LAST CUT	DATE REGROWTH SCORED	APPLICATION		CHECK VARIETIES*		LSD .05			
		333.122	VARIETY	Vernal	Ranger	Legend	<u></u>			
Pioneer Hi-Bred Int'l, Inc. Arlington, WI	8/94	10/94	31.5	21.8	28.1	32.0	3.1			
	ormined from Fall Dormar 1 = Erect (CUF 101) 7 = Semidecumbent (Ver	ncy Trīals) 3 = Şei mai) 9 = Dei	mierect (Mesilla) cumbent (Norseman)	5 = Intermediate (Sa	aranac)					
3, RECOVERY AFTER FIRST SPRIN	,	•			,	W 0101				
	Fast (CUF 101) Blow (Norseman		st (Saranac)							
TEST LO	CATION: Conne	JI. WA								
4. AREAS OF ADAPTATION IN U.S.	(Where tested and prove	n adapted):			······································					
5 Primary Area of Adapta			<del></del>	1 6 ou	er Areas of Adaptation	6 1	Ų.			
	rately Winterhardy Intern	2 = East Central nountain	3 = So 6 = Winterhardy ! tin (7): east central (3	ntermountain 7	= Southwest '= Great Plains					
					•	α.				
5. FLOWERING DATE (When 10% of	plants possess open flov	vers at time of first spr	ing cut):							
Days Earlier Than .  Same As  Days Later Than .		1 = CUF	101 2 =	Mesilla 3 =	: Saranac 4 = V	remal 5 = No	prseman			
	TEST LOCATION:									

3 1 T 7 7 1

6. PLANT COLOR (Determined f	rom healthy regrowth 3 we	eks after first spr	ing cut, controlling le	afhoppers if necessa	ry):		9800341
1 = Very Dark Gre	en (524)	2 = Dark Gree	n (Vernal)	3 = Light Gree	n (Ranger)		
COLOR CHART V	ALUE(Specify chart used)						
APPLICATION VA	RIETY:						
VERNAL:							-
						···	
TEST LOCATION: 7. CROWN TYPE (Determined fro	m spaced plantings):						
Noncreeping T	ypes: 1 = Broad (Ve	ernal)	2 = Intermediate (Sa	ranac)	3 = Narrow (0	CUF 101)	
Creeping Types	s: 4 = Creeping	Rooted (Rangela	nder)	5 = Rhizomatous	(Rhizoma)		
8. FLOWER COLOR (Determine fr	equency of plants for each	color class as d	efined by USDA Agric	ultural Handbook No.	. 424 (Barnes 1	972), allowing all pla	ants in plot to flower);
0 6 8 % Purple and V	iolet (Subclasses 1.1 to 1.4	)		% Blue (Subc	lasses 2.3 and	2.4)	
0 3 1 % Variegated O	ther Than Blue (Subclasse:	s 2.1, 2.2, 2.5 to 2	.9)	t % Yellow (Su	bclasses 4.1 to	4.4)	
t % Cream (Class	3)	•		t % White (Clas	ss 5}		
TEST LOCATION	N: <u>Johnston, IA</u>		I-made	,			
9. POD SHAPE (Determine frequer	icy of plants with the follow	wing pod shapes	produced on well cro	ss-pollinated raceme	·s);		
% Tightly Coiled	(One or more coils, center	r more or less clo	sed)	% Loosely Co	iled (One or me	ore coils, center con	spicuously open)
% Sickle (Less t	han 1 coil)			TEST LOCATE	ON:		
10. PEST RESISTANCE: Provide in	the appropriate column, tr	rial data for appli	cation variety, and res	sistant (R) and susce	ptible (S) checl	k varieties, synthetic	generation tested, average severity
index sco	res (ASI), least significant e	difference statisti	ics (LSD .05), the inst	itution in charge of te	st, year, and lo	cation of test, and v	whether test is a field or laboratory all data from other test years or
locations	should be presented when	ever avallable on	a separate documen	t as Exhibit D.			Rm. 335, BARC-West, Beltsville, MD
20705. All presented	though comparisons with o	check varieties lis	sted below are prefer	ed, comparisons with	any appropria	ate check variety rec	ommended by Elgin (1982) may be
A. DISEASE RESISTANCE:		SYN. GEN.	PERCENT	WWDED OF		4.01	INCESTIGNA VEAD LOCATION
DISEASE	VARIETY	TESTED	RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION, FIELD OR LABORATORY
Anthracnose, Race 1 (Colletotrichum trifolii)	Application HR	2	70.6	~125		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc. 1996
	Arc (R)		65.0	~125		14.2	Arlington, WI Laboratory
	Saranac (S)		0.0	~125			
	SCORING SYSTEM:	Standard	test				
Anthracnose, Race 2 (Colletotrichum trifolii)	Application						
	Saranac AR (R)						
	Arc (S)						
	SCORING SYSTEM:		<u> </u>				
Bacterial Wilt	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					% Resistant	Pioneer Hi-Bred Int'l, Inc.
(Corynebacterium insidiosum)	Application HR	1	72.8	~200		Plants 15.6	1994
	Vernal (R)	ert er	42.0	~200		15.6	Arlington, WI Field ✓
	Narragansett (S)		4.1	~200			
	SCORING SYSTEM:	Standard	test				
Common Leafspot (Pseudopeziza medicaginis)	Application						
	MSA-CW3An3 (R						
	Ranger (S)						
	SCORING SYSTEM:	<b></b>	, ,	· · · · · · · · · · · · · · · · · · ·			
FORM 1 C 470 22 /4 05)			******			<del> </del>	D105.000

DISEASE	VARIETY	SYN. GEN, TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY
Downy Mildew (Peronospora trifoliorum)	Application						
Isolate, if known:	Saranac (R)						
	Kanza (S)					•	
	SCORING SYSTEM:		<b></b>	<u> </u>			
Fusarium Wilt (Fusarium oxysporum f. medicaginis)	Application HR	2	56.5	~150		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc. 1996
.• ,	Agate (R)		54.0 ~150		20.9	Arlington, WI Field	
	MNGN-1 (S)		7.7	~150			
	SCORING SYSTEM:	Standar	d test	<u> </u>			
Phytophthora Root Rot (Phytophthora megasperma f. medicaginis)	Application HR	2	60.3	~160		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc. 1996
	Agate (HR)		33.0	~160		12.4	Connell, WA Laboratory ✓
	Saranac (S)		2.5	~160			
	SCORING SYSTEM:	Standar	d test				
Verticillium Wilt (Verticillium alboatrum)	Application HR	2	61.3	~125		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc. 1996 Arlington, WI
	Vertus (R]		47.5	~125		13.2	Laboratory
	Saranac (S)		5.2	~125			
	SCORING SYSTEM:	Standard	d test				
Other (Specify) Aphanomyces root rot	Application LR	1	8.9	~175	, , , , , ,	Plants 1993	Pioneer Hi-Bred Int'l, Inc. 1993 Arlington, WI
Aphanomyces euteiches	WAPH-1(		50.0	~175			Laboratory
•	Saranac		2.1	~175			
·	SCORING SYSTEM:	Standard	l test	•			
	Application	<b>X</b> 13					
	(R)						
	(S)	,					
-	SCORING SYSTEM:			·			
NSECT RESISTANCE: INSECT	VARIETY	SYN. GEN. TESTED	PERCENT DEFOLIATION	DEFOLIATION IN PERCENT OF RESISTANT CHECK	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY
Alfalfa Weevil (Hypera postica)	Application						
	Arc (R)			100			
	Saranac (S)						
	SCORING SYSTEM:					1	·

INSECT	VARIETY	SYN. GEN. TESTED	PERCENT SEEDLING SURVIVAL	NUMBER OF SEEDLINGS TESTED	ASI	ASI LSD .05	INSTITUTION, YEAR, LOCATION FIELD OR LABORATORY
Blue Alfalfa Aphid (Acyrthosiphon kondoi)	Application MR	2	27.1	~		Plants 1	Pioneer Hi-Bred Int'l, Inc. 1996
	CUF101 (HR)		55.0			19.1	Kerman, CA Laboratory
	Caliverde (S)		0.0			•	
	SCORING SYSTEM:	Standar	d test				
Pea Aphid (Acyrthosiphon pisum)	Application HR	2	56.3	~300		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc. 1995 Quarryville, PA Laboratory
	Baker (R)		55.0	~300		21.9	
	Caliverde (S)		7.8	~300	-		
	SCORING SYSTEM:	Standard	d test				
Spotted Alfalfa Aphid (Therioaphis maculata) Biotype, if known:	Application R	1	39.1	- ~300		% Resistant Plants 16.3	Pioneer Hi-Bred Int'l, Inc. 1995 Kerman, CA Laboratory
	Baker (HR)		50.0	~300			
	Caliverde (S)		2.3	~300			
	SCORING SYSTEM:	Standard	l test				
INSECT	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION. YEAR, LOCATION FIELD OR LABORATORY
Potato Leafhopper Yellowing (Empoasca fabae)	Application			·			
	PLH40 (MR)						
	Ranger (S)						
	SCORING SYSTEM:	•					•
Other (Specify)	Application						
	(R)						
	(S)	*					
	SCORING SYSTEM;	A 188				•	
EMATODE RESISTANCE: NEMATODE	VARIETY	SYN. GEN. TESTED	PERCENT RESISTANT PLANTS	NUMBER OF PLANTS TESTED	ASI	ASI LSD .05	INSTITUTION. YEAR, LOCATION FIELD OR LABORATORY
Northem Root Knot (Meloidogyne hapla)	Application HR	2	70.3	~250		% Resistant Plants	Pioneer Hi-Bred Int'l, Inc.
	SYN YY (HR]		90.0	~250		16.2	Connell, WA Laboratory
	Lahontan (S)		9.1	~250			
	SCORING SYSTEM:	Standard	test	<u>1</u> _		+	

oplication  papa 69 (R)  hontan (S)  DRING SYSTEM:	2	59.4	~250		% Resistant	Pioneer Hi-Bred Int'l. Inc.
hontan (S) ORING SYSTEM:	2	59.4	~250		1	Pioneer Hi-Bred Int'l. Inc.
ORING SYSTEM:	2 .	59.4	~250		1	Pioneer Hi-Bred Int'l. Inc.
	2	59.4	~250		1	Pioneer Hi-Bred Int'l. Inc.
plication HR	2	59.4	~250		1	Pioneer Hi-Bred Int'l, Inc.
	1 .		~250		Plants	Pioneer Hi-Bred Int'l, Inc. 1997
mema (R)		60.0	~250		11.6 Connell, WA Laboratory	
nger (S)	į	9.9	~250			
ORING SYSTEM:	Standard	test			•	
plication						
- F	nger (S)  DRING SYSTEM:  Dication	nger (S)  DRING SYSTEM: Standard  Dilication	orger (S) 9.9 ORING SYSTEM: Standard test	nger (S) 9.9 ~250  DRING SYSTEM: Standard test	nger (S) 9.9 ~250  DRING SYSTEM: Standard test	nger (S) 9.9 ~250  DRING SYSTEM: Standard test  Dilication  DRING SYSTEM:

11. INDICATE THE VARIETY THAT MOST CLOSELY RESEMBLES THE APPLICATION VARIETY FOR EACH OF THE FOLLOWING CHARACTERS:

CHARACTER VARIETY CHARACTER VARIETY

Winterhardiness 5262 Plant Color 
Recovery After 1st Cut 5364 Crown Type 
Area of Adaptation 5364 Combined Disease Resistance 5312

#### REFERENCES

Combined Insect Resistance

Bames, D.K. 1972. A System for Visually Classifying Alfalfa Flower Color. U.S. Dep. Agric. Handb. 424. 18 pp. (Note: Greenish cast of plate 6, A and B is an artifact of printing, actual colors a blend of yellow and white.)

Elgin, J.H., Jr., (ed.). 1982. Standard Tests to Characterize Pest Resistance in Alfalfa Cultivars. U.S. Dep. Agric. Tech. Buil. (In Press).

Gunn, C.R., W.H. Skrdla, and H.C. Spencer. 1978. Classification of Medicago sativa L. using legume characters and flower colors. U.S. Dep. Agric. Tech. Bull. 1574. 84 pp.

Munsell Color Co. 1977. Munsell Plant Tissue Color Charts. Munsell Color Co., Inc. Baltimore.

NOTE: Any additional descriptive information and supporting documentation may be provided as Exhibit D.

Flowering Date

54Q53

#### '53V08'

- 1. 53V08 is a synthetic variety comprised of 224 random parent plants crossed in "cage isolation" in 1993. Parent plants trace to populations selected for winterhardiness and forage yield based on field and greenhouse tests. Parent plants were selected using space plant nurseries screened for one or more of the following pests: bacterial wilt, Verticillium wilt, Phytophthora root rot, stem nematode, northern root knot nematode, and spotted aphid. Phenotypic recurrent selection was used. Germplasm sources are *M. falcata* (5%), Ladak (7%), *M. varia* (20%), Turkistan (3%), Flemish (33%), Chilean (5%), Peruvian (<1%), and unknown (27%).
- 2. 53V08 is intended for use in the great plains, north central, east central, moderately winterhardy intermountain, winterhardy intermountain, and northern regions of the United States. It is also adapted to the southeast regions of Canada. The states in which 53V08 has been tested are: Iowa, Illinois, Minnesota, New York, Pennsylvania, Wisconsin, Oregon, and Washington. It has also been tested in Ontario, Canada.
- 3. 53V08 is a very winterhardy, moderately dormant cultivar with a fall dormancy similar to Saranac. Flower color in the Syn. 2 generation is approximately 68% purple and 31% variegated, with traces of yellow, white and cream.
- 4. 53V08 is highly resistant to bacterial wilt, fusarium wilt, Verticillium wilt, anthracnose (race 1), Phytophthora root rot, pea aphid, stem nematode, and northern root knot nematode; resistant to spotted alfalfa aphid; moderately resistant to blue aphid (biotype 1); and low resistance to Aphanomyces root rot (race 1).
- 5. Breeders seed (Syn 1) was produced on 224 plants in cage isolation and bulked. Seed classes will be breeder, foundation (Syn 2 or 3), and certified (Syn 2, Syn 3, or Syn 4). Foundation seed may be produced from breeder or foundation. The second generation foundation seed may be produced at the discretion of Pioneer Hi-Bred International, Inc. Limitations of age of stand will be one, three and five years, respectively, for breeder, foundation and certified seed. Breeder seed must be produced in the Pacific Northwest region of the United States.
- 6. Seed will be marketed in the spring of 1998?
- 7. Application for Plant Variety Protection will be made, and the certification option will not be requested.
- 8. As a means of added varietal protection, information included with the Application for Review of Alfalfa Varieties for Certification may be provided to the PVP office.
- 9. Variety name: 53V08 Date submitted: November 26, 1997 Experimental designation: X53V08

REPRODUCE L'OCALLY. Include form number and date on all reproductions.	FORM APPROVED - OMB NO.	0581-0055 EXPIRES: 12-31-96					
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY, DIVISION, PLANT VARIETY REPORTECTION OFFICE	The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.						
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP							
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME					
Pioneer Hi-Bred International, Inc.	X53V08	53V08					
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)	5. TELEPHONE (include area code)	6. FAX (include area code)					
7305 N.W. 62nd Ave.	(515) 270-3347	(515) 270-3750					
P.O. Box 287 Johnston, IA 50131	7. PVPO NUMBER 93003	41					
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If	no, please explain.	X YES NO					
9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country		X yes No					
10. Is the applicant the original breeder? If no, please answer the following:		X YES NO					
<ul> <li>a. If original rights to variety were owned by individual(s):</li> <li>ls (are) the original breeder(s) a U.S. national(s)? If no, give name of country</li> </ul>		7, 120					
b. If original rights to variety were owned by a company: Is the original breeder(s) U.S. based company? If no, give name of country		YES NO					
11. Additional explanation on ownership (If needed, use reverse for extra space):							
PLEASE NOTE:							
Plant variety protection can be afforded only to owners (not licensees) who meet one	of the following criteria:	•					
If the rights to the variety are owned by the original breeder, that person must be a of a country which affords similar protection to nationals of the U.S. for the same g		r country, or national					
<ol><li>If the rights to the variety are owned by the company which employed the original inationals of a UPOV member country, or owned by nationals of a country which affigenus and species.</li></ol>	breeders(s), the company must be U.S. ba fords similar protection to nationals of the	sed, owned by e U.S. for the same					
3. If the applicant is an owner who is not the original breeder, both the original breede	er and the applicant must meet one of the	above criteria.					
The original breeder may be the individual or company who directed final breeding. S definition.	iee Section 41(a)(2) of the Plant Variety Pr	rotection Act for					
Public reporting burden for this collection of information is estimated to average 10 minutes per response, including maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. & 0581-0055 and form number in your letter.	this burden estimate or any other aspect of this collecti-	on of information, including					
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